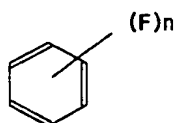


## CLAIMS

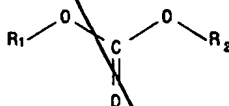
Sub A1  
5 1. A non-aqueous electrolyte composition for lithium secondary cells, comprising a lithium salt dissolved in an organic solvent system composed of a fluorobenzene component (FB) and a carbonic acid ester component (CE), wherein the solvent components are present in a volume percent ratio range from 50 FB : 50 CE to 5 FB : 95 CE, said fluorobenzene component being one or more compounds represented by the following general formula 1:

[ Formula 1 ]



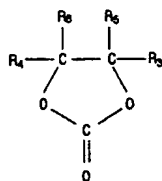
10 wherein F represents a fluorine element and n is an integer of 1-6; said carbonic acid ester component being one or more compounds represented by the following general formulas 2 and 3:

[ Formula 2 ]



15 wherein R<sub>1</sub> and R<sub>2</sub>, which may be the same or different, each represents an alkyl radical containing 1-4 carbon atoms.

[ Formula 3 ]



20 wherein R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and R<sub>6</sub>, which may be the same or different, each represents a hydrogen atom or an alkyl radical containing 1-4 carbon atoms.

Sub A2  
2. A non-aqueous electrolyte composition as set forth in claim 1, wherein said fluorobenzene component of the general formula 1 is a mixture of fluorobenzene and difluorobenzene.

Sub A3  
3. A non-aqueous electrolyte composition as set forth in claim 1, wherein said lithium salt is selected from the group consisting of  $\text{LiPF}_6$ ,  $\text{LiClO}_4$ ,  $\text{LiAsF}_6$ ,  $\text{LiBF}_4$ ,  $\text{LiCF}_3\text{SO}_3$  and mixtures thereof and used at a concentration of 0.7-2.0 M.

Sub A4  
10 4. A non-aqueous electrolyte composition as set forth in claim 1, wherein said carbonic acid ester component is selected from the group consisting of ethylene carbonate, propylene carbonate, butylene carbonate, dimethyl carbonate, diethyl carbonate, dipropyl carbonate, ethylmethyl carbonate, methylpropyl carbonate, ethylpropyl carbonate and mixtures thereof.

Sub A5  
15 5. A non-aqueous electrolyte composition as set forth in claim 1, wherein said organic solvent system ranges, in the volume ratio of the solvent component of the general formula 1 to the solvent component of the general formula 2, from 2/1 to 1/10.

Sub A6  
20 6. A non-aqueous electrolyte composition as set forth in claim 1, wherein said organic solvent system ranges, in the volume ratio of the solvent component of the general formula 1 to the solvent component of the general formula 3, from 2/1 to 1/10.